

NCI Director's Report

Norman E. Sharpless, M.D.

16th Virtual Meeting of the National Cancer Advisory Board

February 10, 2022

@NCIDirector
@TheNCI

HEALTH

50 years ago this week President Nixon signed the National Cancer Act

December 22, 2021 · 5:10 AM ET

Heard on Morning Edition

GABRIELLE EMANUEL



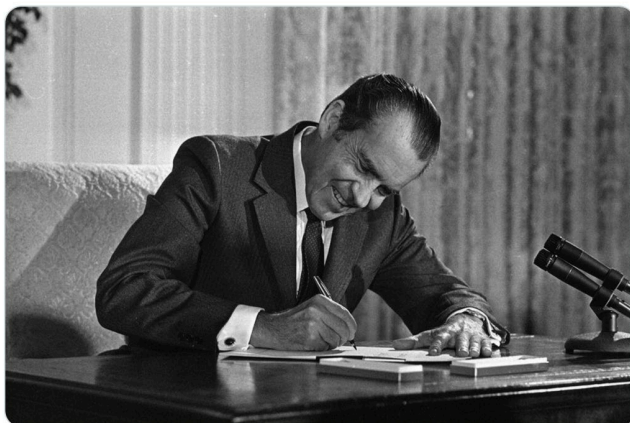
6-Minute Listen

+ PLAYLIST

Five decades ago, the National Cancer Act became law. What did it take for cancer to go from an unmentionable disease to among the most visible and best-funded in medicine?

The ASCO Post
@ASCOPost

How the National Cancer Act of 1971 Revolutionized Cancer Care and What Lies Ahead: Celebrating 50 Years of Cancer Progress: Conversations With Seven Cancer Care Experts [ascopost.com/issues/may-25-...](https://ascopost.com/issues/may-25-2021/)
#cancercare #NothingWillStopUs



News > Kaiser Health News

The War on Cancer at 50: The Origin Begins With a Socialite Citizen-Lobbyist

Gabrielle Emanuel, WBUR

January 06, 2022



FDA Oncology
@FDAOncology

OCE Director Richard Pazdur, MD, writes about 50 years of progress in treating patients with cancer since the National Cancer Act of 1971 increased the nation's commitment to cancer research & drug development.
#ConversationsOnCancer
#NothingWillStopUs
bit.ly/3ISFcLR



Karen Weintraub
USA TODAY

Published 5:30 a.m. ET Dec. 23, 2021 | Updated 10:28 a.m. ET Dec. 23, 2021

50 years after the US declared war against cancer, the fight continues. These are the 10 biggest victories.

First Lady Jill Biden Commemorates NCA 50



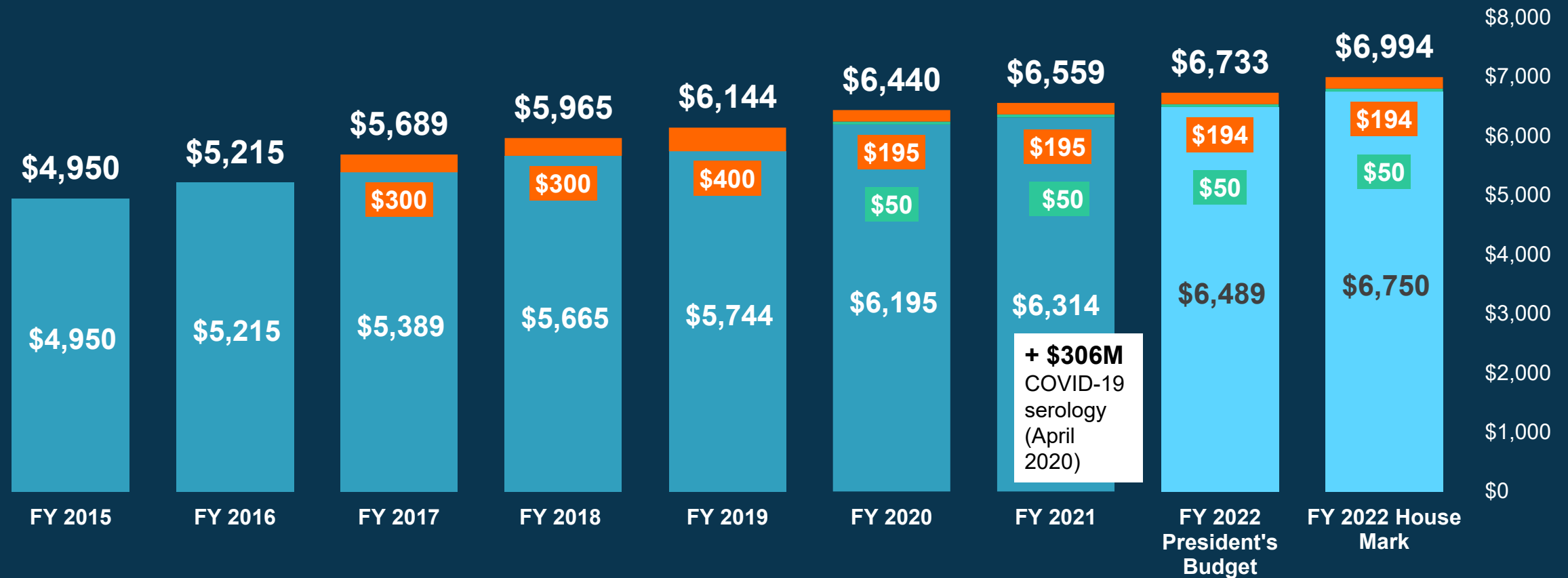
“There is nothing out of our reach. Cancer is part of the Biden family’s story. It’s part of so many Americans’ stories. Cancer touches us all. But together, we can change that story. **We can end the tragedy of cancer as we know it, and nothing will stop us.”**

—First Lady of the United States,
Dr. Jill Biden

NCI Appropriations

FY 2015 – 2022 (in millions)

21st Century Cures Act - orange
Childhood Cancer Initiative - green




NCI Interim Paylines for FY 2022

GRANT TYPE	INTERIM PAYLINE
R01 Grants for Established and New Investigators	9th Percentile
R01 Grants for Early-Stage Investigators (ESIs)	14th Percentile
R21 Exploratory Grants	9th Percentile
Non-competing grants will be funded at 90% during this period of uncertainty.	



NCI Bottom Line: A Blog about Grants and More

[Subscribe](#)



Familiar Fiscal Challenges for NCI

December 6, 2021, by NCI Director Dr. Norman E. Sharpless

On the heels of Congress extending the Continuing Resolution for FY 2022, the NCI Director addresses what short-term funding means for NCI's grantee community. As in years past, Dr. Sharpless highlights the Institute's interim payline policies for both competing and noncompeting grants.

***Scientific American* – December 28, 2021**

Opinion

A \$1-Billion Boost to the NCI Will Help Us Beat Cancer

The organization's underfunding means critical research is not being done

“ To ensure that our children and grandchildren will not be touched by the tragedy of the disease the way we have been, we must work together to treat cancer with the same urgency that we tackled the pandemic—starting with a robust, sustained investment in cancer research through the National Cancer Institute (NCI). ”



Senator Chris Coons
Delaware (D)



Senator Jerry Moran
Kansas (R)



“I’m proud to announce our plan to supercharge the Cancer Moonshot as a central effort of the Biden-Harris administration... This is a presidential priority. I will do my part on funding and using my authority as president to speed breakthroughs. I challenge and encourage all of you to do your part.”

— President Joe Biden (February 2, 2022)

AP AP NEWS

Biden aims to reduce cancer deaths by 50% over next 25 years

NEWS

Revamped ‘Cancer Moonshot’ could prevent deaths and improve quality of life for survivors

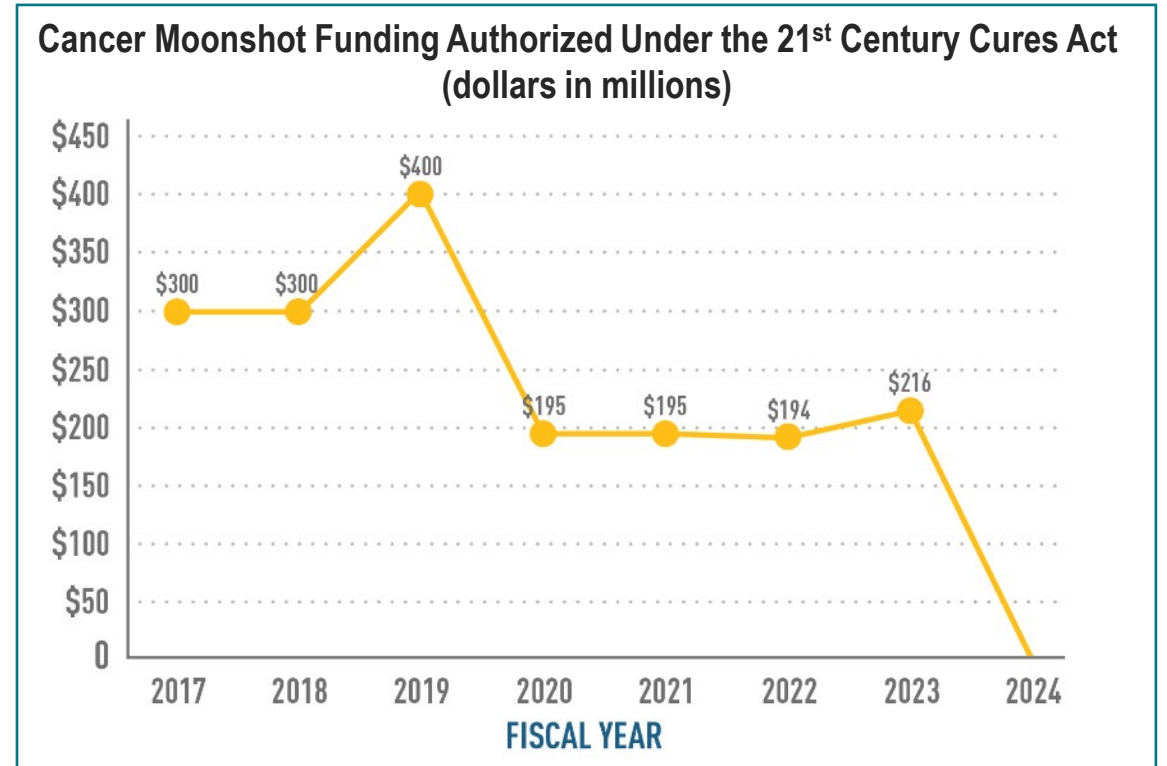
abc NEWS

Biden relaunches cancer ‘moonshot’ initiative to help cut death rate

Science

Biden’s ‘reignited’ Cancer Moonshot would develop blood tests to detect cancer and vaccines to prevent it

Cancer MoonshotSM



The Cancer Moonshot has three ambitious goals: to **accelerate scientific discovery in cancer**, **foster greater collaboration**, and **improve the sharing of data**.

Ending Cancer As We Know It

DIAGNOSE CANCER SOONER



Increase access to screening, support patients through diagnosis, evaluate new technologies like multi-cancer detection tests

PREVENT CANCER



Explore mRNA technology, address environmental exposures to cancer

ADDRESS INEQUITIES



Ensure every community in the nation has access to diagnostics, therapeutics, and clinical trials

TARGET TREATMENTS TO THE RIGHT PATIENTS



Learn more about genetics, immune responses, and other factors, to tell which combination of treatments will work best in an individual patient

SPEED PROGRESS AGAINST DEADLIEST & RAREST CANCERS



Invest in a robust pipeline for new treatments

SUPPORT PATIENTS, CAREGIVERS, & SURVIVORS



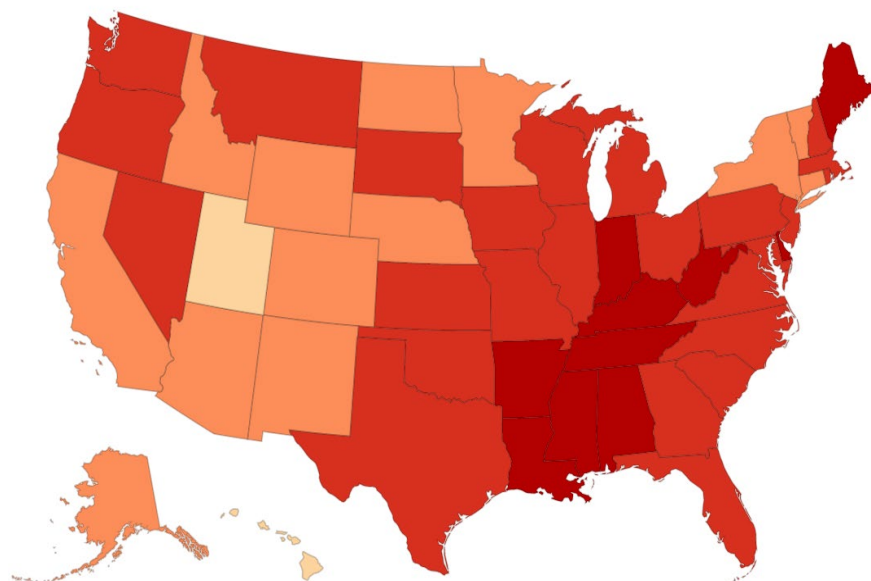
Help people overcome medical, financial, and emotional burdens; provide support to navigate diagnosis, treatment, and survivorship

LEARN FROM ALL PATIENTS

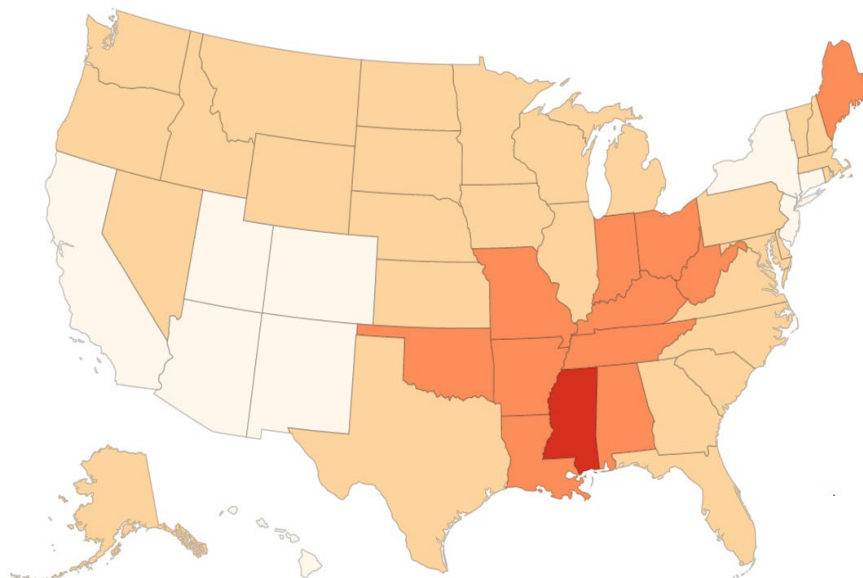


Leverage diverse experiences of patients and families to develop approaches to end cancer as we know it

Age-Adjusted Cancer Mortality



2005



2019

Age Adjusted Rates
(per 100,000)

117.20 - 137.58

137.58 - 157.96

157.96 - 178.34

178.34 - 198.72

198.72 - 219.10

New White House Cancer Mortality Goal

1990 **215** deaths per 100,000

2019 **146** deaths per 100,000

In 25 years...

73 deaths per 100,000



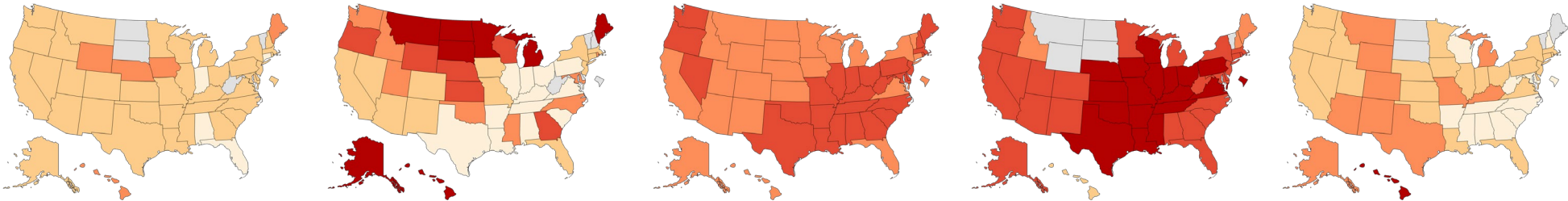
“The goal is to cut the cancer death rate in half in the next 25 years.”

— President Biden
Feb. 2, 2022

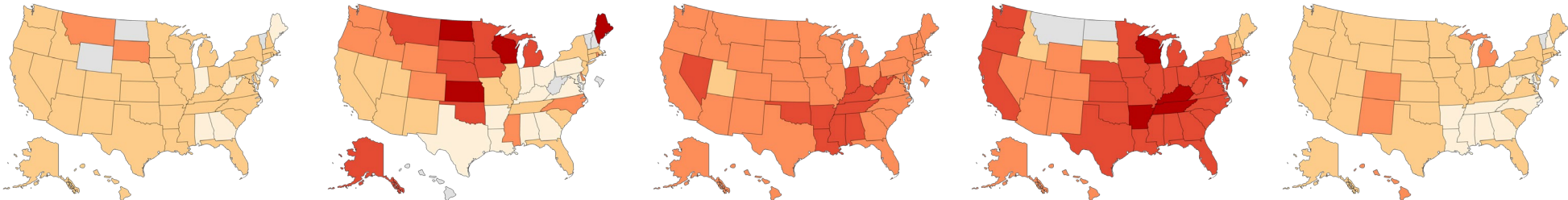
Mortality From All Malignant Cancers (By Race / Ethnicity)

Non-Hispanic Asian / Pacific Islander (API) Non-Hispanic American Indian and Alaskan Native (AIAN) Non-Hispanic White Non-Hispanic Black Hispanic

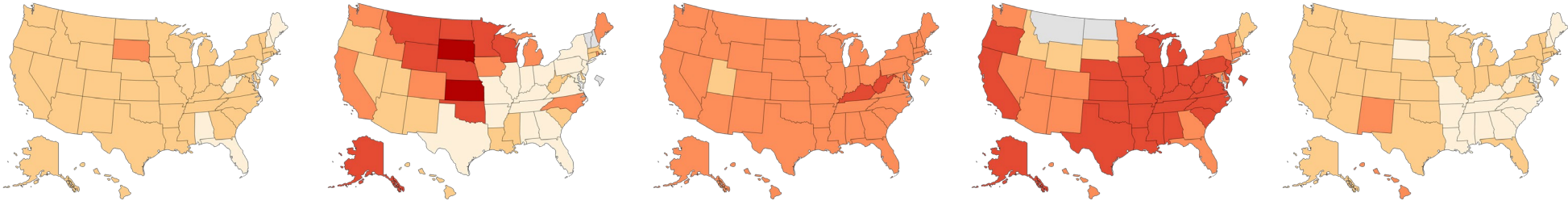
2000 to 2004



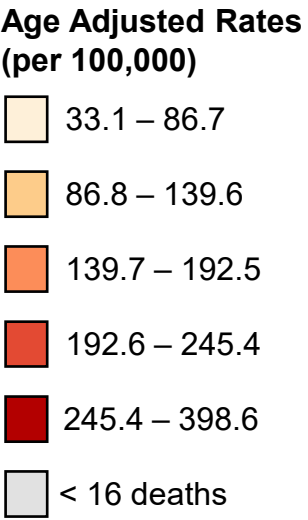
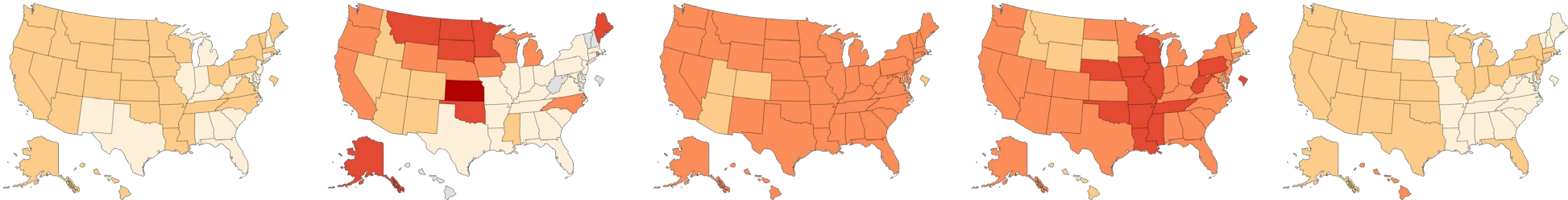
2005 to 2009



2010 to 2014



2015 to 2019



President's Cancer Panel Report



Dr. Ned Sharpless with two of the three members of the President's Cancer Panel, Dr. Edith Mitchell and Dr. John Williams (Chair). Not pictured: Robert Ingram

Closing Gaps in Cancer Screening:

Connecting People, Communities, and Systems to Improve Equity and Access



Improve and align communication



Facilitate equitable access



Strengthen workforce collaborations



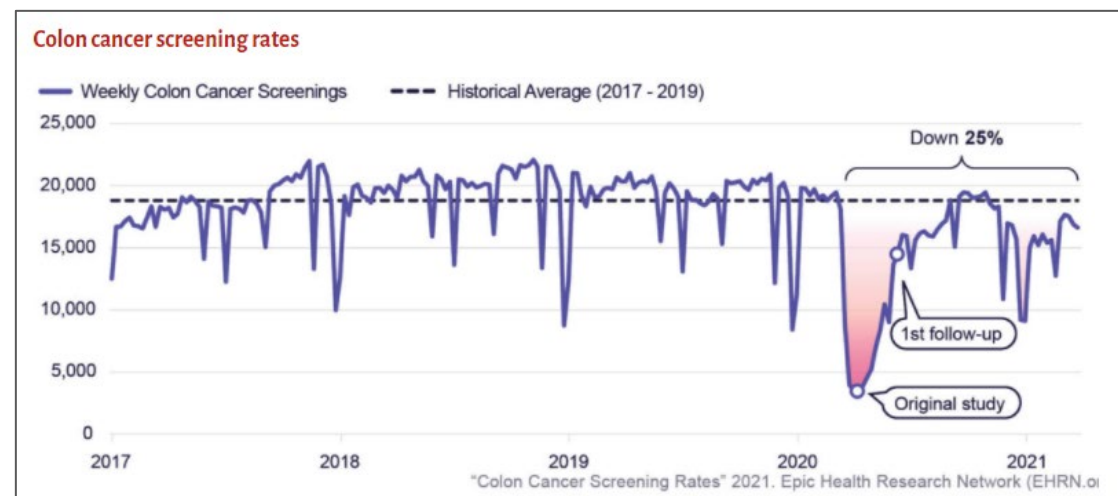
Create effective health IT

"...more **effective and equitable implementation of cancer screening** represents a significant opportunity for the National Cancer Program, with potential to accelerate the decline in cancer deaths and, in some cases, prevent cancer.."

Call to Action on Cancer Screening

“Americans have missed more than 9 million cancer screenings in the last two years because of COVID. Nine million. We have to get cancer screenings back on track and make sure that they are accessible to all Americans.”

President Joe Biden
February 2, 2022



Blood-based multi-cancer detection tests (MCDs)



OUTSTANDING QUESTIONS

Can MCD tests detect many subclinical cancers at early stage **and reduce mortality?**

How safe is an MCD-negative test result?

What are the rates of false-positive/negative results, and of finding indolent cancers (overdiagnosis)?

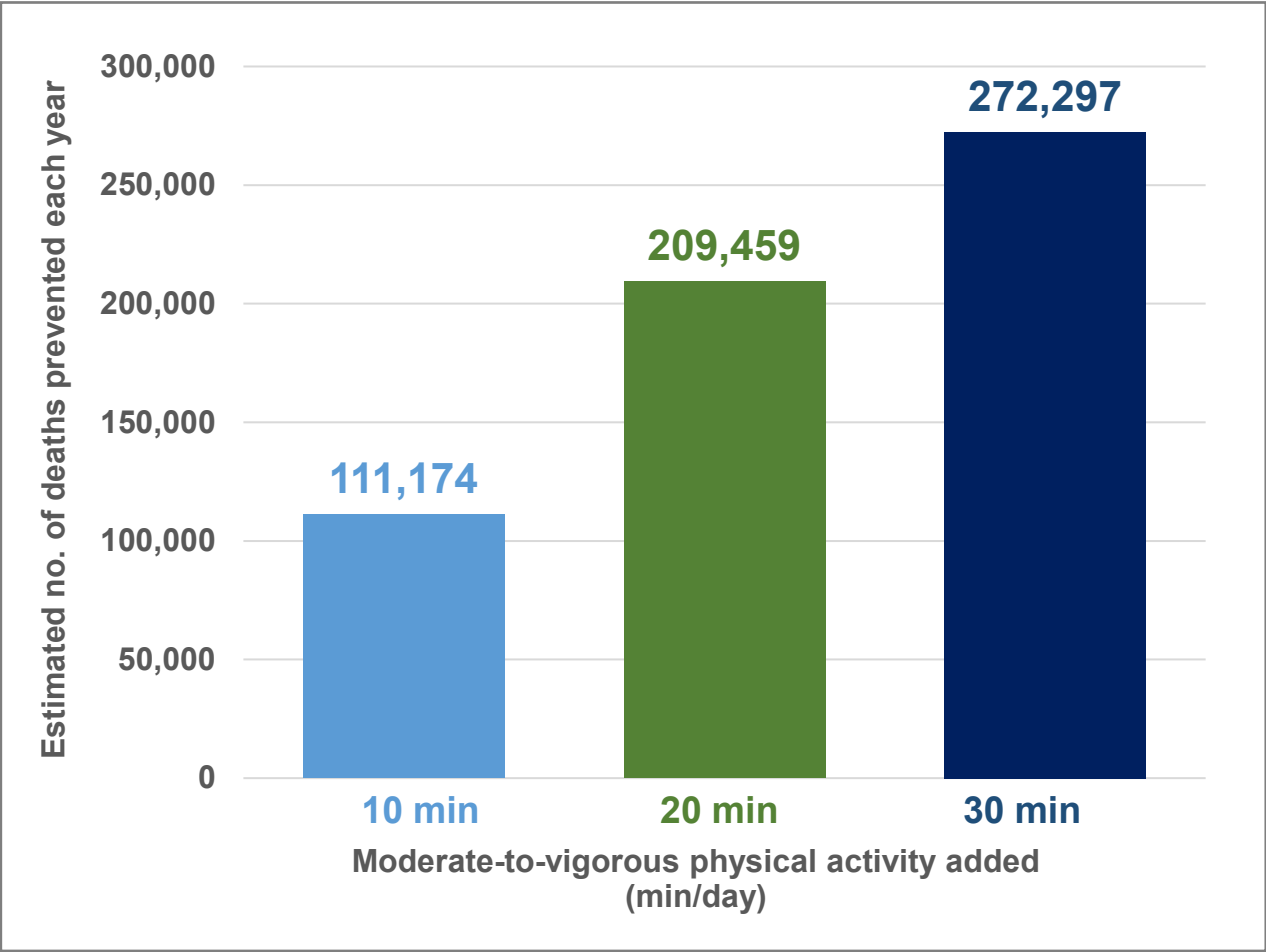
Request for Information (RFI)

Seeking Input from Multi-Cancer Early Detection Test Developers on Readiness for Participation in an NCI-Sponsored Clinical Utility Randomized Controlled Screening Trial

Notice Number: **NOT-CA-22-033**

Responses accepted through
March 1, 2022

Small increase in physical activity could avert 7-17% of deaths/year



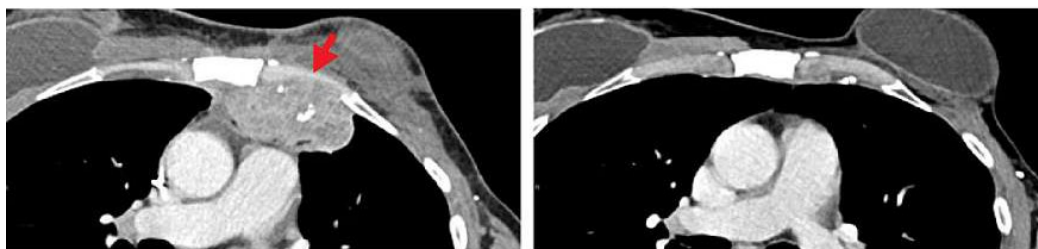
Added physical activity (min/day)	Est. deaths averted a year	% decrease in deaths/year
10	111,174	7%
20	209,459	13%
30	272,297	17%

First study to estimate preventable deaths through physical activity using accelerometer-based measurements among US adults

*Saint-Maurice PF, Graubard BI, Troiano RP, et al.
Estimated Number of Deaths Prevented Through
Increased Physical Activity Among US Adults. JAMA
Internal Medicine. January 24, 2022.*

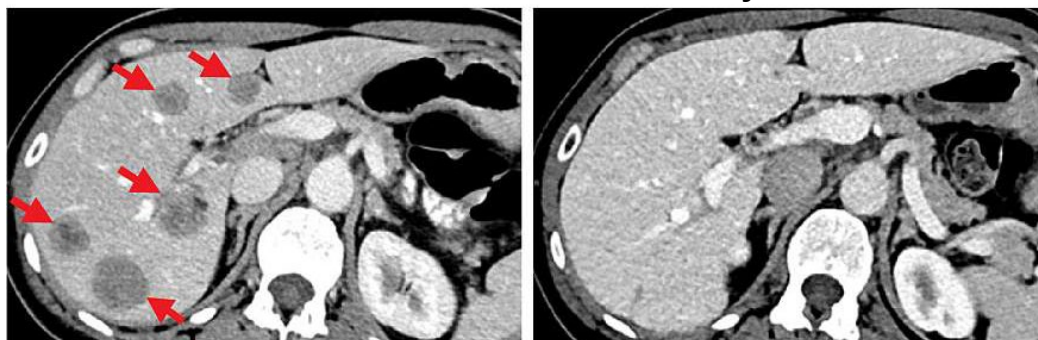
Breast Cancers Are Immunogenic: Immunologic Analyses and a Phase II Pilot Clinical Trial Using Mutation-Reactive Autologous Lymphocytes

Journal of Clinical Oncology – February 1, 2022



December 2015

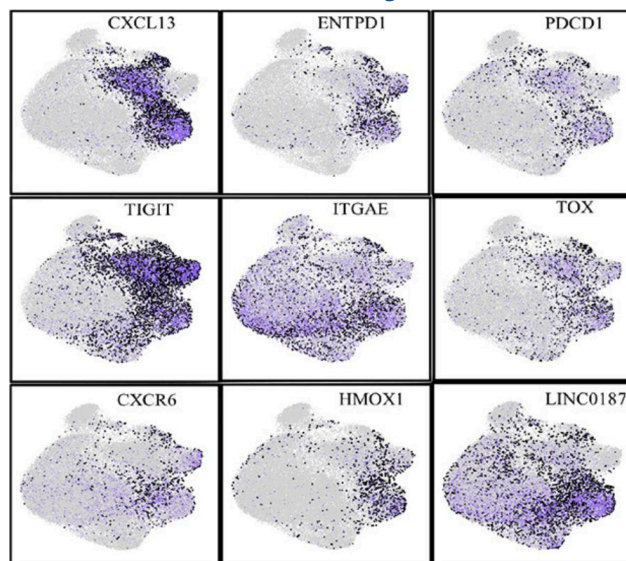
May 2021



Before TIL therapy, a woman with breast cancer had metastatic lesions in her chest wall (top, left) and liver (bottom, left). After receiving the immunotherapy, her tumors shrank completely, and recent scans (right) show that she remains cancer free more than 5 years later.

Molecular signatures of antitumor neoantigen-reactive T cells from metastatic human cancers

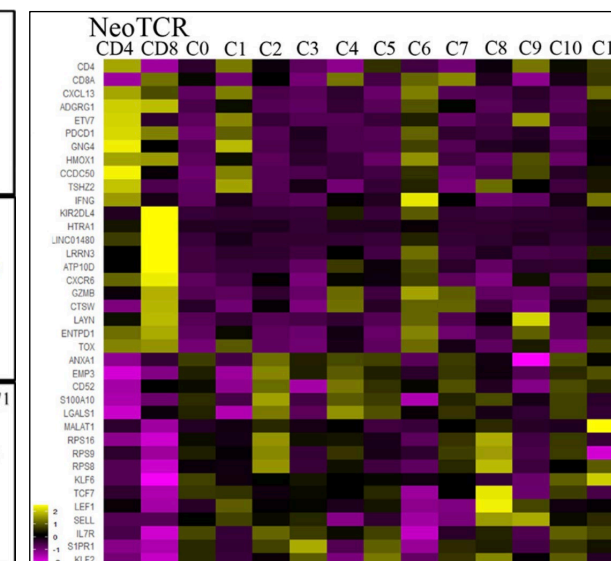
Science – February 3, 2022



Gene expression of selected top highly expressed genes from NeoTCR-expressing cells compared to other cells



Dr. Steven Rosenberg



Heatmap of gene expression, top differentially expressed genes from NeoTCR CD4 and NeoTCR CD8 compared to all clusters

NCI New Personnel Announcement



Dr. Brigitte Widemann

**Special Advisor to the Director
for Childhood Cancer**

Commitment to a Safe and Respectful Workplace at NIH

“An environment where people feel **welcome, respected, and valued** is critical to enable all individuals to contribute to their fullest potential.

Our continued growth toward this goal is grounded in the **expectation that all employees respect one another in their workplace interactions.**”

*Lawrence A. Tabak, D.D.S., Ph.D.
Acting Director, NIH
February 10, 2022*



“We are living in a golden age of research and discovery.

We can end this terror, and all of us have a role to play.”

First Lady Dr. Jill Biden
February 2, 2022

Discussion